

## Safety Guidelines for Chemical Demonstrations

1. Practice demonstrations before performing in front of others. Only attempt a demonstration if you are aware of all the difficulties and hazards.
2. Never attempt a demonstration that will put you or others at risk.
3. Comply with all rules and regulations for the location being used.
4. Know the properties of the chemicals and the chemical reactions involved in all demonstrations presented.
5. Do not taste any non-food substances.
6. Do not taste any food created in a laboratory setting.
7. Do not perform demonstrations where parts of the human body are placed in danger (such as placing dry ice in the mouth or dipping hands into liquid nitrogen).
8. Provide written procedure, hazard, and disposal information for each demonstration whenever the audience is encouraged to repeat the demonstration.
9. Wear appropriate eye protection for **all** chemical demonstrations.
10. Warn the audience to cover their ears when a loud noise is anticipated.
11. Provide safety shield protection where there is the slightest possibility that a container, its fragments, or its contents could be propelled to cause personal injury.
12. Set up appropriate waste containers for disposal of materials and chemicals.
13. Use fresh chemicals and clean glassware to prevent possible contamination.
14. Ensure that electrical devices are properly grounded and inspect every electrical circuit before turning the current on. All electrical devices must have an easily reachable on/off switch.
15. If heat is involved in the demonstration, check all lab glassware for chips and cracks before using.
16. Plan demonstrations so that harmful quantities of noxious gases (e.g., NO<sub>2</sub>, SO<sub>2</sub>, H<sub>2</sub>S) do not enter the local air supply.

17. Do not use open containers of volatile, toxic substances (e.g., benzene,  $\text{CCl}_4$ ,  $\text{CS}_2$ , formaldehyde) without adequate ventilation, such as a fume hood.
18. Have a fire extinguisher at hand.
19. If a flammable liquid is use, all reagent bottles must be capped after pouring out the appropriate quantities. Be aware of heat sources and flammable vapors. Never repeat a demonstration using flammable liquids until all containers and surfaces are cool to the touch.